

## SEQUENCE LISTING

<110> OULMOUDEN, AHMAD  
JULIEN, RAYMOND  
LAFORET, MARIE-PIERRE  
LEVEZIEL, HUBERT

<120> USE OF SILVER GENE FOR THE AUTHENTICATION OF  
THE RACIAL ORIGIN OF ANIMAL POPULATIONS, AND  
OF THE DERIVATIVE PRODUCTS THEREOF

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<140> 10/565,646  
<141> 2006-03-24

<150> PCT/FR2004/001952  
<151> 2004-07-22

<150> FR/09161  
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Gly Ser Gln Ser Tyr Val Pro Leu Ala His Ser Ser Ser Ala Phe Thr			
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Leu Asp Gly Arg Asn Lys Arg Phe Leu Arg Lys Gln Pro Leu Thr Phe			

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155

Glu

25

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Pro	Glu	Pro	Ala	Gly	Ser	Asn	Thr	Ser	Ser	Phe	Met	Pro	Thr	Glu	Gly	
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 305 310 315 320  
 Gly Thr Thr Ala Gly Gln Val Pro Thr Thr Glu Val Met Gly Thr Thr  
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 Pro Gly Gln Val Pro Thr Ala Glu Ala Pro Gly Thr Thr Val Gly Trp  
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 Val Pro Thr Thr Glu Asp Val Gly Thr Thr Pro Glu Gln Val Ala Thr  
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 Arg Tyr Gly Ser Phe Ser Leu Thr Leu Asp Ile Val Gln Gly Ile Glu  
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 Ser Ala Glu Ile Leu Gln Ala Val Ser Ser Ser Glu Gly Asp Ala Phe  
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 Glu Leu Thr Val Ser Cys Gln Gly Gly Leu Pro Lys Glu Ala Cys Met  
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 Lys Gly Gly Ser Gly Thr Tyr Cys Leu Asn Val Ser Leu Ala Asp Ala  
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Thr Ala Leu Leu Leu Ala Ser Leu Ile Tyr Arg Arg Arg Leu Met Lys  
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Gln Gly Ser Ala Val Pro Leu Pro Gln Leu Pro His Gly Arg Thr Gln  
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Val	Glu	Met	Pro	Thr	Ala	Lys	Ala	Thr	Gly	Arg	Thr	Pro	Glu	Val	Ser
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Leu	Val	Glu	Thr	Thr	Ala	Gly	Glu	Val	Ser	Thr	Pro	Glu	Pro	Ala	Gly
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Ser	Leu	Thr	Leu	Asp	Ile	Val									
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atc	cta	cag	gct	gtg	tca	tcc	agt	gaa	gga	gat	gca	ttt	gag	ctg	act
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Leu Pro Lys Glu Ala Cys Met Asp Ile Ser										
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Ser Pro Gly Cys Gln Leu Pro Ala Gln Arg Leu Cys Gln Pro Val Pro										
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ccc agc cca gcc tgc cag ctg gtt ttg cac cag gta ctg aag ggt ggc										6998
Pro Ser Pro Ala Cys Gln Leu Val Leu His Gln Val Leu Lys Gly Gly										
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Ala Met Val Ser Thr Gln Leu Val Met Pro										
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Gly Gln Glu Ala Gly Leu Arg Gln Ala										
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Pro Leu Phe Val Gly Ile Leu Leu Val Leu Thr Ala Leu Leu Leu Ala										
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tct ctg ata tac ag	gtgagatccc cgccatcctg ctccccactcc tttaccctt									7312
Ser Leu Ile Tyr Arg										
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Ser Cys Pro Ile Gly Glu Ser Lys Pro Leu Leu Ser Gly Gln Gln Val										
635	640	645								

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Gly Val Ser Arg Gln Leu Arg Ile Lys Ala Trp Asn Arg Gln Leu Tyr  
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Pro Glu Trp Thr Glu Ser Gln Gly Pro Asp Cys Trp Arg Gly Gly His  
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Ile Ser Leu Lys Val Ser Asn Asp Gly Pro Thr Leu Ile Gly Ala Asn  
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Ala Ser Phe Ser Ile Ala Leu His Phe Pro Lys Ser Gln Lys Val Leu  
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Pro Asp Gly Gln Val Ile Trp Ala Asn Asn Thr Ile Ile Asn Gly Ser  
100 105 110  
Gln Val Trp Gly Gly Gln Leu Val Tyr Pro Gln Glu Pro Asp Asp Thr  
115 120 125  
Cys Ile Phe Pro Asp Gly Glu Pro Cys Pro Ser Gly Pro Leu Ser Gln  
130 135 140  
Lys Arg Cys Phe Val Tyr Val Trp Lys Thr Trp Asp Gln Tyr Trp Gln  
145 150 155 160  
Val Leu Gly Gly Pro Val Ser Gly Leu Ser Ile Gly Thr Asp Lys Ala  
165 170 175  
Met Leu Gly Thr Tyr Asn Met Glu Val Thr Val Tyr His Arg Arg Gly  
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Ser Gln Ser Tyr Val Pro Leu Ala His Ser Ser Ser Ala Phe Thr Ile  
195 200 205  
Thr Asp Gln Val Pro Phe Ser Val Ser Val Ser Gln Leu Gln Ala Leu  
210 215 220  
Asp Gly Arg Asn Lys Arg Phe Leu Arg Lys Gln Pro Leu Thr Phe Ala  
225 230 235 240  
Leu Gln Leu His Asp Pro Ser Gly Tyr Leu Ala Gly Ala Asp Leu Ser  
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Tyr Thr Trp Asp Phe Gly Asp Ser Thr Gly Thr Leu Ile Ser Arg Ala  
260 265 270  
Leu Thr Val Thr His Thr Tyr Leu Glu Ser Gly Pro Val Thr Ala Gln

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275

280

285

Val Val Leu Gln Ala Ala Ile Pro Leu Thr Ser Cys Gly Ser Ser Pro  
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Val Pro Gly Thr Thr Asp Arg His Val Thr Thr Ala Glu Ala Pro Gly  
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Thr Thr Ala Gly Gln Val Pro Thr Thr Glu Val Met Gly Thr Thr Pro  
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Gly Gln Val Pro Thr Ala Glu Ala Pro Gly Thr Thr Val Gly Trp Val  
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Pro Thr Thr Glu Asp Val Gly Thr Thr Pro Glu Gln Val Ala Thr Ser  
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Lys Val Leu Ser Thr Thr Pro Val Glu Met Pro Thr Ala Lys Ala Thr  
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Gly Arg Thr Pro Glu Val Ser Thr Thr Glu Pro Ser Gly Thr Thr Val  
385 390 395 400

Thr Gln Gly Thr Thr Pro Glu Leu Val Glu Thr Thr Ala Gly Glu Val  
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Ser Thr Pro Glu Pro Ala Gly Ser Asn Thr Ser Ser Phe Met Pro Thr  
420 425 430

Glu Gly Thr Ala Gly Ser Leu Ser Pro Leu Pro Asp Asp Thr Ala Thr  
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Tyr Gly Ser Phe Ser Leu Thr Leu Asp Ile Val Gln Gly Ile Glu Ser  
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Leu Thr Val Ser Cys Gln Gly Leu Pro Lys Glu Ala Cys Met Asp  
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Ile Ser Ser Pro Gly Cys Gln Leu Pro Ala Gln Arg Leu Cys Gln Pro  
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Val Pro Pro Ser Pro Ala Cys Gln Leu Val Leu His Gln Val Leu Lys  
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Gly Gly Ser Gly Thr Tyr Cys Leu Asn Val Ser Leu Ala Asp Ala Asn  
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Ser Leu Ala Met Val Ser Thr Gln Leu Val Met Pro Gly Gln Glu Ala  
565 570 575

Gly Leu Arg Gln Ala Pro Leu Phe Val Gly Ile Leu Leu Val Leu Thr  
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Ala Leu Leu Leu Ala Ser Leu Ile Tyr Arg Arg Leu Met Lys Gln  
595 600 605

Gly Ser Ala Val Pro Leu Pro Gln Leu Pro His Gly Arg Thr Gln Trp

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<210> 11

<211> 30

<212> DNA

<213> Artificial sequence

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<223> Primer

<400> 11

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<211> 2086

<212> DNA

<213> Artificial sequence

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<400> 12

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Tyr Pro Glu Trp Thr Glu Ser Gln Gly Pro Asp Cys Trp Arg Gly Gly  
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His Ile Ser Leu Lys Val Ser Asn Asp Gly Pro Thr Leu Ile Gly Ala  
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Asn Ala Ser Phe Ser Ile Ala Leu His Phe Pro Lys Ser Gln Lys Val  
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Leu Pro Asp Gly Gln Val Ile Trp Ala Asn Asn Thr Ile Ile Asn Gly  
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Ser Gln Val Trp Gly Gly Gln Leu Val Tyr Pro Gln Glu Pro Asp Asp  
115 120 125

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Gln Val Leu Gly Gly Pro Val Ser Gly Leu Ser Ile Gly Thr Asp Lys  
 165 170 175

Ala Met Leu Gly Thr Tyr Asn Met Glu Val Thr Val Tyr His Arg Arg  
 180 185 190

Gly Ser Gln Ser Tyr Val Pro Leu Ala His Ser Ser Ser Ala Phe Thr  
 195 200 205

Ile Thr Asp Gln Val Pro Phe Ser Val Ser Val Ser Gln Leu Gln Ala  
 210 215 220

Leu Asp Gly Arg Asn Lys Arg Phe Leu Arg Lys Gln Pro Leu Thr Phe  
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Ala Leu Gln Leu His Asp Pro Ser Gly Tyr Leu Ala Gly Ala Asp Leu  
 245 250 255

Ser Tyr Thr Trp Asp Phe Gly Asp Ser Thr Gly Thr Leu Ile Ser Arg  
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Ala Leu Thr Val Thr His Thr Tyr Leu Glu Ser Gly Pro Val Thr Ala  
 275 280 285

Gln Val Val Leu Gln Ala Ala Ile Pro Leu Thr Ser Cys Gly Ser Ser  
 290 295 300

Pro Val Pro Gly Thr Thr Asp Arg His Val Thr Thr Ala Glu Ala Pro  
 305 310 315 320

Gly Thr Thr Ala Gly Gln Val Pro Thr Thr Glu Val Met Gly Thr Thr  
 325 330 335

Pro Gly Gln Val Pro Thr Ala Glu Ala Pro Gly Thr Thr Val Gly Trp  
 340 345 350

Val Pro Thr Thr Glu Asp Val Gly Thr Thr Pro Glu Gln Val Ala Thr  
 355 360 365

Ser Lys Val Leu Ser Thr Thr Pro Val Glu Met Pro Thr Ala Lys Ala  
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Thr Gly Arg Thr Pro Glu Val Ser Thr Thr Glu Pro Ser Gly Thr Thr  
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Val Thr Gln Gly Thr Thr Pro Glu Leu Val Glu Thr Thr Ala Gly Glu  
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Val Ser Thr Pro Glu Pro Ala Gly Ser Asn Thr Ser Ser Phe Met Pro  
420 425 430

Thr Glu Gly Thr Ala Gly Ser Leu Ser Pro Leu Pro Asp Asp Thr Ala  
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Thr Leu Val Leu Glu Lys Arg Gln Ala Pro Leu Asp Cys Val Leu Tyr  
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Arg Tyr Gly Ser Phe Ser Leu Thr Leu Asp Ile Val Gln Gly Ile Glu  
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Ser Ala Glu Ile Leu Gln Ala Val Ser Ser Ser Glu Gly Asp Ala Phe  
485 490 495

Glu Leu Thr Val Ser Cys Gln Gly Gly Leu Pro Lys Glu Ala Cys Met  
500 505 510

Asp Ile Ser Ser Pro Gly Cys Gln Leu Pro Ala Gln Arg Leu Cys Gln  
515 520 525

Pro Val Pro Pro Ser Pro Ala Cys Gln Leu Val Leu His Gln Val Leu  
530 535 540

Lys Gly Gly Ser Gly Thr Tyr Cys Leu Asn Val Ser Leu Ala Asp Ala  
545 550 555 560

Asn Ser Leu Ala Met Val Ser Thr Gln Leu Val Met Pro Gly Gln Glu  
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Ala Gly Leu Arg Gln Ala Pro Leu Phe Val Gly Ile Leu Leu Val Leu  
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Thr Ala Leu Leu Leu Ala Ser Leu Ile Tyr Arg Arg Arg Leu Met Lys  
595 600 605

Gln Gly Ser Ala Val Pro Leu Pro Gln Leu Pro His Gly Arg Thr Gln  
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Trp Leu Arg Leu Pro Trp Val Phe Arg Ser Cys Pro Ile Gly Glu Ser  
Page 35

625 630 635 640

Lys Pro Leu Leu Ser Gly Gln Gln Val  
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35 40 45

Ala Phe Thr Ile Thr Asp Gln Val Pro Phe Ser Val Ser Val Ser Gln  
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Leu Gln Ala Leu Asp Gly Arg Asn Lys Arg Phe Leu Arg Lys Gln Pro  
65 70 75 80

Leu Thr Phe Ala Leu Gln Leu His Asp Pro Ser Gly Tyr Leu Ala Gly  
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Ala Asp Leu Ser Tyr Thr Trp Asp Phe Gly Asp Ser Thr Gly Thr Leu  
100 105 110

Ile Ser Arg Ala Leu Thr Val Thr His Thr Tyr Leu Glu Ser Gly Pro  
115 120 125

Val Thr Ala Gln Val Val Leu Gln Ala Ala Ile Pro Leu Thr Ser Cys  
130 135 140

Gly Ser Ser Pro Val Pro Gly Thr Thr Asp Arg His Val Thr Thr Ala  
145 150 155 160

Glu Ala Pro Gly Thr Thr Ala Gly Gln Val Pro Thr Thr Glu Val Met  
165 170 175

Gly Thr Thr Pro Gly Gln Val Pro Thr Ala Glu Ala Pro Gly Thr Thr  
180 185 190

Val Gly Trp Val Pro Thr Thr Glu Asp Val Gly Thr Thr Pro Glu Gln  
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195

200

205

Val Ala Thr Ser Lys Val Leu Ser Thr Thr Pro Val Glu Met Pro Thr  
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Ala Lys Ala Thr Gly Arg Thr Pro Glu Val Ser Thr Thr Glu Pro Ser  
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Gly Thr Thr Val Thr Gln Gly Thr Thr Pro Glu Leu Val Glu Thr Thr  
245 250 255

Ala Gly Glu Val Ser Thr Pro Glu Pro Ala Gly Ser Asn Thr Ser Ser  
260 265 270

Phe Met Pro Thr Glu Gly Thr Ala Gly Ser Leu Ser Pro Leu Pro Asp  
275 280 285

Asp Thr Ala Thr Leu Val Leu Glu Lys Arg Gln Ala Pro Leu Asp Cys  
290 295 300

Val Leu Tyr Arg Tyr Gly Ser Phe Ser Leu Thr Leu Asp Ile Val Ser  
305 310 315 320

Ile Glu Ser Ala Glu Ile Leu Gln Ala Val Ser Ser Ser Glu Gly Asp  
325 330 335

Ala Phe Glu Leu Thr Val Ser Cys Gln Gly Gly Leu Pro Lys Glu Ala  
340 345 350

Cys Met Asp Ile Ser Ser Pro Gly Cys Gln Leu Pro Ala Gln Arg Leu  
355 360 365

Cys Gln Pro Val Pro Pro Ser Pro Ala Cys Gln Leu Val Leu His Gln  
370 375 380

Val Leu Lys Gly Gly Ser Gly Thr Tyr Cys Leu Asn Val Ser Leu Ala  
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Asp Ala Asn Ser Leu Ala Met Val Ser Thr Gln Leu Val Met Pro Gly  
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Gln Glu Ala Gly Leu Arg Gln Ala Pro Leu Phe Val Gly Ile Leu Leu  
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Val Leu Thr Ala Leu Leu Ala Ser Leu Ile Tyr Arg Arg Arg Leu  
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Met Lys Gln Gly Ser Ala Val Pro Leu Pro Gln Leu Pro His Gly Arg  
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Thr Gln Trp Leu Arg Leu Pro Trp Val Phe Arg Ser Cys Pro Ile Gly  
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Glu Ser Lys Pro Leu Leu Ser Gly Gln Gln Val  
485 490